

<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		ATTORNEY'S DOCKET NUMBER 2115D-002504/US/NPB U.S. APPLICATION NO. (if known, see 37 CFR 1.5) 10/553851
INTERNATIONAL APPLICATION NO. PCT/US2004/012375	INTERNATIONAL FILING DATE 22 April 2004	PRIORITY DATE CLAIMED 23 April 2003
TITLE OF INVENTION INTEGRATED GLOBAL LAYOUT AND LOCAL MICROSTRUCTURE TOPOLOGY OPTIMIZATION APPROACH FOR SPINAL CAGE DESIGN AND FABRICATION APPLICANT(S) FOR DO/EO/US <div style="text-align: center;">Chia Ying Lin et al.</div>		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
1. <input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371.		
2. <input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371.		
3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.		
4. <input type="checkbox"/> The US has been elected (Article 31).		
5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2))		
a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).		
b. <input type="checkbox"/> has been communicated by the International Bureau.		
c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).		
6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).		
a. <input type="checkbox"/> is attached hereto.		
b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).		
7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))		
a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).		
b. <input type="checkbox"/> have been communicated by the International Bureau.		
c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.		
d. <input type="checkbox"/> have not been made and will not be made.		
8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).		
9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).		
10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).		
<b>Items 11 to 20 below concern document(s) or information included:</b>		
11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.		
12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.		
13. <input type="checkbox"/> A preliminary amendment.		
14. <input checked="" type="checkbox"/> A Corrected Application Data Sheet under 37 CFR 1.76.		
15. <input type="checkbox"/> A substitute specification.		
16. <input type="checkbox"/> A power of attorney and/or change of address letter.		
17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 – 1.825.		
18. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).		
19. <input type="checkbox"/> A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).		

U.S. APPLICATION NO. (if known, see 37 CFR 1.5) <b>10/553851</b>	INTERNATIONAL APPLICATION NO. <b>PCT/US2004/012375</b>	ATTORNEY'S DOCKET NUMBER <b>2115D-002504/US/NPB</b>	
20. <input checked="" type="checkbox"/> Other items or information: Certificate of Express Mailing (Label EV 805 532 325 US) Check in the amount of \$65.00 Response to Notification of Missing Requirements and Submission of Signed Declaration and Power of Attorney and Corrected Application Data Sheet Copy of Notification of Missing Requirements Under 35 USC 371 Return Receipt Postcard			
The following fees have been submitted		<b>CALCULATIONS</b>	<b>PTO USE ONLY</b>
21. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)) ..... \$300		\$	
22. <input type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) ..... \$0 All other situations ..... \$200		\$	
23. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4) ..... \$0 Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority ..... \$100 International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB ..... \$400 All other situations ..... \$500		\$	
<b>TOTAL OF 21, 22 and 23 =</b>		\$ 0.00	
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) or computer program listing in an electronic medium) (37 CFR 1.492(j)). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.			
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE
- 100 =	/50 =		x \$250.00
			\$
Surcharge of \$130 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).		\$ 130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE
Total claims	- 20 =		x
Independent claims	- 3 =		x
MULTIPLE DEPENDENT CLAIM(S) (if applicable)		+	
<b>TOTAL OF ABOVE CALCULATIONS =</b>		\$ 130.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.		65.00	
<b>SUBTOTAL =</b>		\$ 65.00	
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).		\$	
<b>TOTAL NATIONAL FEE =</b>		\$ 65.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property		\$	
		\$	
<b>TOTAL FEES ENCLOSED =</b>		\$ 65.00	
		Amount to be refunded:	\$
		Amount to be charged	\$
<div style="display: flex; justify-content: space-between;"> <span>08/11/2006 TRAN1 00000101 10553851</span> <span>65.00 op</span> </div>			

08/11/2006  
01 FC:2617

- a. ☒ A check in the amount of \$ 65.00 to cover the above fees is enclosed.
- b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.
- c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit  
Account No. 08-0750 . A duplicate copy of this sheet is enclosed.
- d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. **Credit card information  
should not be included on this form.** Provide credit card information and authorization on PTO-2038

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be  
filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

Linda M. Deschere  
HARNES, DICKEY & PIERCE, P.L.C.  
P. O. Box 828  
Bloomfield Hills, MI 48303  
United States of America

  
SIGNATURE

Linda M. Deschere  
NAME

CUSTOMER NUMBER: 27572

34,811  
REGISTRATION NUMBER

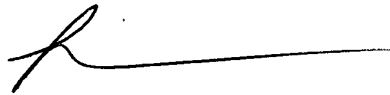
Dated: August 7, 2006

## Certificate of Express Mailing Under 37 CFR 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail, Airbill No. **EV 805 532 325 US** in an envelope addressed to:

MS PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

on August 7, 2006  
Date



Signature

Linda M. Deschere

Typed or printed name of person signing Certificate

34,811  
Registration Number, if applicable

(248) 641-1287  
Telephone Number

Note: Each paper must have its own certificate of mailing, or this certificate must identify each submitted paper.

1. Certificate of Express Mailing (Label EV 805 532 325 US);
2. Check in the amount of \$65.00;
3. Transmittal Letter to the DO/EO/US (3 pages, in duplicate);
4. Response to Notification of Missing Requirements Under 35 USC 371 and Submission of Signed Declaration and Power of Attorney and Corrected Application Data Sheet;
5. Signed Declarations and Power of Attorney (3 separate Declarations);
6. Corrected Application Data Sheet;
7. Copy of Notification of Missing Requirements Under 37 USC 371;
8. Return Receipt Postcard.

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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In re Patent Application of:  
Chia Ying Lin et al.

Application No.: 10/553851

Confirmation No.: 6572

Filed: October 20, 2005

Art Unit: N/A

For: Integrated Global Layout And Local  
Microstructure Topology Optimization  
Approach For Spinal Cage Design And  
Fabrication

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Examiner: Not Yet Assigned

**RESPONSE TO NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 USC 371**  
**AND SUBMISSION OF SIGNED DECLARATION AND POWER OF ATTORNEY**  
**AND CORRECTED APPLICATION DATA SHEET**

MS PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Notification of Missing Requirements Under 35 U.S.C. 371 in the United States Designated/Elected Office, (copy attached) mailed June 7, 2006, enclosed are three originally signed Declarations and Powers of Attorney signed by each listed Applicant and Inventor.

Also enclosed is a corrected Application Data Sheet that contains the current addresses of the inventors, as noted on the signed Declaration and Power of Attorney documents. Please replace this corrected Application Data Sheet with the ADS as originally filed and update the official records of the United States Patent Office accordingly.

Response to Missing Requirements and Submission of Signed  
Declarations and Powers of Attorney and Corrected Application Data Sheet

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-0750, under Order No. 2115D-002504/US/NPB from which the undersigned is authorized to draw.

Dated: August 7, 2006

Respectfully submitted,

By 

Linda M. Deschere  
Registration No.: 34,811  
HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1287  
Attorney for Applicant

Missing Requirements

Due: 8-7-06

LOES ✓



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/553,851	Chia Ying Lin	2115D002504/NPB

INTERNATIONAL APPLICATION NO.

PCT/US04/12375

I.A. FILING DATE

PRIORITY DATE

04/22/2004

04/23/2003

27572

HARNES, DICKEY &amp; PIERCE, P.L.C.

P.O. BOX 828

BLOOMFIELD HILLS, MI 48303

CONFIRMATION NO. 6572

371 FORMALITIES LETTER



\*OC000000019141041\*

Date Mailed: 06/07/2006

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Indication of Small Entity Status
- Copy of the International Application filed on 10/20/2005
- Copy of the International Search Report filed on 10/20/2005
- Copy of IPE Report filed on 10/20/2005
- Information Disclosure Statements filed on 10/20/2005
- U.S. Basic National Fees filed on 10/20/2005
- Priority Documents filed on 10/20/2005

The applicant needs to satisfy supplemental fees problems indicated below.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.492(h) of \$65 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

#### SUMMARY OF FEES DUE:

Total additional fees required for this application is \$65 for a Small Entity:

- \$65 Surcharge.

ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

SHAKEEL AHMED

Telephone: (703) 308-9140 EXT 208

PART 1 - ATTORNEY/APPLICANT COPY

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/553,851	PCT/US04/12375	2115D002504/NPB

FORM PCT/DO/EO/905 (371 Formalities Notice)